

Application No.: 10/694,287
Amendment dated: December 1, 2006
Reply to Office Action of September 1, 2006
Attorney Docket No.: 21295.65 (H5680LS)

This listing of claims will replace all prior versions and listings of claims in this application:

b.) Listing of Claims

What is claimed is:

1. (Currently Amended) A sample carrier for a confocal microscope, comprising:

a first coverslip and a second coverslip immovably secured in a frame and forming a cavity between them, wherein the second coverslip ~~carries~~ having a mirror-coated zone and wherein the mirror surrounds a sample region which is are defined on the second coverslip;

~~a frame which holds the first and the second coverslip and thereby provides a cavity between the first and the second coverslip;~~

a medium uniformly filling filled in the cavity, ~~which has the medium having~~ approximately the same refractive index as the first and the second coverslips.

2. (Currently Amended) The sample carrier as defined in Claim 1, wherein the substrate of the first and the second coverslips ~~eoverslip~~ is made of anisotropic or isotropic materials of approximately the same refractive index and that are transparent to the wavelengths of illumination light used in the microscope.

3. (Currently Amended) The sample carrier as defined in Claims 1, wherein the first and the second coverslips ~~eoverslip~~ are made of quartz glass; and the medium uniformly filling in the cavity is glycerol.

4. (Currently Amended) The sample carrier as defined in Claim 3, wherein the distance between the first and the second coverslips ~~eoverslip~~ is no greater than 50 μm .

5. (Currently Amended) The sample carrier as defined in Claim 1, wherein the mirror -coated zone on the second coverslip is made from a material that acts reflectively for light in a wavelength region between $\lambda = 300 \text{ nm} - 1300 \text{ nm}$.

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6. (Currently Amended) The sample carrier as defined in Claim 5, wherein the material of the mirror-coated zone is aluminum or silver with a protective layer, or gold.
7. (Currently Amended) The sample carrier as defined in Claim 5, wherein the mirror-coated zone is made of a dielectric mirror coating.
8. (Currently Amended) The sample carrier as defined in Claim 1, wherein the mirror-coated zone is ~~embedded~~ as a circular ring around surrounding the sample region.
9. (Currently Amended) The sample carrier as defined in Claim 1, wherein at least the first or the second coverslips ~~eoverslip~~ is secured to the frame using a special adhesive.
10. (Currently Amended) The sample carrier as defined in Claim 1, wherein the first and the second coverslips ~~eoverslip~~ are in the shape of a circle.
11. (Currently Amended) The sample carrier as defined in Claim 1, wherein the first and the second coverslips ~~eoverslip~~ possess the shape of a polygon with sides of identical length.
12. (Currently Amended) The sample carrier as defined in Claim 1, wherein the first and the second coverslips ~~eoverslip~~ are in the shape of a rectangle.
13. (Currently Amended) The sample carrier as defined in Claim 1, wherein the confocal microscope is a an interferometric fluorescence microscope, such as 4-pi microscope, a standing wave field microscope, I²M, I³M, and I⁵M microscope, and a theta microscope.

Claims 14-19 - Cancelled